

## **REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed May 8, 2003. Reconsideration and allowance of the application and pending claims are respectfully requested.

### **I. Allowable Subject Matter**

Applicants appreciate the Examiner's indication that claims 55, 57, and 58 would be allowable if rewritten to include their base claim. The amendments to claims 55 and 57 reflect such changes and are now believed to be in condition for allowance.

### **II. Claim Rejections - 35 U.S.C. § 112**

#### **A. Rejections under 35 U.S.C. § 112, Second Paragraph**

Claims 47, 50, and 52-54 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. In response to these rejections, Applicants have either amended or canceled these claims.

In view of the above described amendments to the claims, it is respectfully submitted that claims 47 and 52-53 currently define the subject matter in the manner required by 35 U.S.C. § 112. Accordingly, it is respectfully requested that the rejections to these claims be withdrawn.

### **III. Claim Rejections - 35 U.S.C. § 102(e)**

#### **A. Statement of the Rejection**

Claims 1, 47-49, and 52-54 have been rejected under 35 U.S.C. § 102(e) as being anticipated by *Chan* (“*Chan*,” U.S. Pat. No. 6,025,742).

The rejection states that *Chan* discloses Applicants’ invention as recited in the above-identified claims. Applicants respectfully traverse this rejection.

#### **B. Applicants’ Claimed Invention**

As provided in independent claim 1, as amended, Applicants claim:

1. An output stage for a line driver, comprising:
  - a first amplifier comprising a series combination of a first semiconductor device and a second semiconductor device;
  - a second amplifier comprising a series combination of a third semiconductor device and a fourth semiconductor device;
  - a first integrated back-matching resistor network interposed between the first and the second semiconductor devices; and
  - a second integrated back-matching resistor network interposed between the third and the fourth semiconductor devices,

*wherein a supply voltage applied to a source node of the first and second semiconductor devices of the first and second amplifiers respectively, is increased to a voltage level exceeding the maximum drain-source voltage for the semiconductor device technology associated with the first and second semiconductor devices, resulting in an available maximum power increase at the line driver output.*

Applicants’ claim 1 (emphasis added). Notably, independent claims 52, 53, 55, and 57 contain a limitation similar to that emphasized above.

### **C. The *Chan* Reference**

*Chan* discloses a low voltage differential swing driver circuit. FIG. 2 of Chan illustrates an embodiment of the driver circuit. In particular, FIG. 2 illustrates first and second parallel branches 28a and 28b. Each branch includes a PMOS transistor device 29 in series with an NMOS transistor device 30. In between the transistor devices are resistors 34 and 35. FIG. 2 also illustrates a supply voltage provided by voltage bus 22. Transistor 23 with VREF generator 27 and comparator 26 effectively regulate the supply voltage to 1.8 volts as it is supplied to the source nodes of the PMOS devices 29 and 31. The regulation of the supply voltage is essential to the invention.

In contrast to the subject matter defined by claims 1, 52, 53, 55, and 57, *Chan* does not disclose, teach, or suggest a supply voltage that is increased to a voltage level that exceeds the breakdown voltage of the semiconductor technology as presently claimed. In the case of Chan the semiconductor technology of interest is PMOS devices 29 and 31. As just noted, the supply voltage of Chan is highly regulated such that it remains relatively constant at 1.8V. See Col. 3, lines 5-25.

### **D. Discussion of the Rejection**

It is axiomatic that “[a]nticipation requires the disclosure in a single prior art reference of *each element* of the claim under consideration.” *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983)(emphasis added). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(e).

In the present case, not every feature of the claims is represented in the Chan reference. The Chan reference does not disclose a combination of various electrical components that handles a supply voltage exceeding the maximum drain-source voltage for the semiconductor device technology utilized. The Chan reference discloses a supply voltage that is regulated within +/- 0.1% at 1.8V, which does not exceed the maximum drain-source voltage of the PMOS devices 29 and 31. Furthermore, as stated above, regulating the supply voltage is essential to the Chan invention. Increasing the supply voltage of Chan to, for example, double (1.8 x 2 = 3.6 V), as illustrated in the specification of the presently pending application, would produce potentially undesired results, and thus constitute teaching away.

Accordingly, Applicants respectfully assert that Chan does not anticipate Applicants' claim 1, nor claims 52, 53, 55, and 57, which include a similar limitation. Therefore, Applicants respectfully request that the rejection of these claims be withdrawn.

#### **IV. Claim Rejections - 35 U.S.C. § 103(a)**

Claims 2, 3, 56 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Chan. In that these claims depend from an independent claim that is allowable, the rejection of these claims should be withdrawn. *See In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

#### **V. Canceled Claims**

As identified above, claims 47-50 and 54 have been canceled from the application through this response without prejudice, waiver, or disclaimer. Applicants reserve the right

to present these canceled claims, or variants thereof, in continuing applications to be filed subsequently.

#### **VI. Newly Added Claims**

As identified above, claims 59-67 have been added into the application through this response. Applicants respectfully submit that these new claims define an invention novel and unobvious in view of the prior art of record and, therefore, respectfully request that these claims be held to be allowable.

#### **CONCLUSION**

Applicant respectfully submits that pending claims 1-3, 52, 53, and 55-67 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



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